Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1	1.	(Previously presented) A method for reverse transcribing an RNA, that
2	comprises:	
3	(a)	providing a reverse transcription reaction mixture comprising said RNA,
4	primer, a divalent c	ation, and a mutant thermoactive DNA polymerase, wherein said mutant
5	DNA polymerase is	characterized in that
6		i) in its native form said DNA polymerase comprises an amino acid
7	sequence that is SEQ ID NO:1;	
8		ii) the amino acid at position 2 of said amino acid sequence is S or A and
9	the amino acid at po	osition 5 of said amino acid sequence is L or I; and
10		iii) the amino acid at position 4 of said amino acid sequence is mutated in
11	comparison to said	native sequence to an amino acid other than E, A, G, or P; and
12	(b)	treating said reaction mixture at a temperature sufficient for said mutant
13	DNA polymerase to initiate synthesis of an extension product of said primer to provide a cDNA	
14	molecule complementary to said RNA.	
1	2.	(Previously presented) The method of Claim 1, wherein said amino acid
2	sequence is SEQ ID NO:2, the amino acid at position 3 of said amino acid sequence is Q or G,	
3	and the amino acid	at position 6 of said amino acid sequence is S or A.
1	3.	(Original) The method of Claim 1, wherein said amino acid sequence is
2	SEQ ID NO:3.	

Appl. No. 09/823,649 Amdt. dated [insert date] Reply to Office Action of October 22, 2003

1	4. (Previously presented) The method of Claim 1, wherein said annu-	o aciu
2	sequence is SEQ ID NO:4, and the amino acid at position 3 is Q or G.	
1	5-7 (Cancelled)	
1	8. (Original) The method of Claim 1, wherein said mutant DNA poly	merase
2	is thermostable.	
1	9. (Original) The method of Claim 1, wherein said DNA polymerase	is a
2	mutant form of a Thermus species DNA polymerase.	
1	10. (Original) The method of Claim 1, wherein said DNA polymerase	is a
2	mutant form of Thermus thermophilus DNA polymerase or Thermus aquaticus DNA	
3	polymerase.	
1	. 11. (Original) The method of Claim 1, wherein said temperature of said	id
2	reaction mixture in step (b) is between 40°C and 80°C.	
1	12. (Original) The method of Claim 1, wherein said amino acid at pos	ition 4
2	of said amino acid sequence is mutated in comparison to said native sequence to an amino	o acid
3	other than E, A, G, P, Q, or D.	
1	13. (Previously presented) A method for reverse transcribing an RNA	, that
2	comprises:	
3	(a) providing a reverse transcription reaction mixture comprising said	RNA, a
4	primer, Mg ⁺² , and a mutant thermoactive DNA polymerase, wherein said mutant DNA	
5	polymerase is characterized in that	
6	i) in its native form said DNA polymerase comprises an amino acid seque	nce that
7	is SEQ ID NO:1;	

- 8 ii) the amino acid at position 2 of said amino acid sequence is S or A and the 9 amino acid at position 5 of said amino acid sequence is L or I; and
- iii) the amino acid at position 4 of said amino acid sequence is mutated in comparison to said native sequence to an amino acid other than E, A, G, or P; and
- 12 (b) treating said reaction mixture at a temperature sufficient for said mutant
 13 DNA polymerase to initiate synthesis of an extension product of said primer to provide a cDNA
 14 molecule complementary to said RNA.
- 1 14. (Previously presented) The method of Claim 13, wherein said amino acid sequence is SEQ ID NO:2, the amino acid at position 3 of said amino acid sequence is Q or G, and the amino acid at position 6 of said amino acid sequence is S or A.
- 1 15. (Original) The method of Claim 13, wherein said amino acid sequence is 2 SEQ ID NO:3.
- 1 16. (Previously presented) The method of Claim 13, wherein said amino acid 2 sequence is SEQ ID NO:4, and the amino acid at position 3 is Q or G.
- 1 17-19. (Cancelled)
- 1 20. (Original) The method of Claim 13, wherein said mutant DNA polymerase is thermostable.
- 1 21. (Original) The method of Claim 13, wherein said DNA polymerase is a mutant form of a *Thermus* species DNA polymerase.
- 1 22. (Original) The method of Claim 13, wherein said DNA polymerase is a 2 mutant form of *Thermus thermophilus* DNA polymerase or *Thermus aquaticus* DNA 3 polymerase.

1	23.	(Original) The method of Claim 13, wherein said temperature of said
2	reaction mixture in s	tep (b) is between 40°C and 80°C.
1	24.	(Original) The method of Claim 13, wherein said amino acid at position 4
2	of said amino acid se	equence is mutated in comparison to said native sequence to an amino acid
3	other than E, A, G, P	P, Q, or D.
1	25.	(Original) A method for amplifying an RNA, that comprise:
2	(a)	reverse transcribing said RNA according to a method of Claim 1 to
3	provide a cDNA;	
4	(b)	amplifying said cDNA.
1	26.	(Original) A method of Claim 25, wherein in step (b) said amplifying is
2	carried out using a polymerase chain reaction.	
1	27.	(Original) A method for amplifying an RNA, that comprise:
2	· (a)	reverse transcribing said RNA according to a method of Claim 13 to
3	provide a cDNA;	
4	(b)	amplifying said cDNA.
1	28.	(Original) A method of Claim 27, wherein in step (b) said amplifying is
2	carried out using a p	olymerase chain reaction.
1	29.	(Previously presented) A method for amplifying an RNA using a single-
2	enzyme reverse trans	scription/amplification reaction, that comprises:
3	(a)	providing an amplification reaction mixture comprising said RNA, a pair
4	of primers, a divalen	t cation, and a mutant thermostable DNA polymerase, wherein said mutant
5	DNA polymerase is	characterized in that

Appl. No. 09/823,649 Amdt. dated April 22, 2004 Reply to Office Action of October 22, 2003

6	i) in its native form said DNA polymerase comprises an amino acid sequence that	
. 7	is SEQ ID NO:1;	
8 9	ii) the amino acid at position 2 of said amino acid sequence is S or A and the amino acid at position 5 of said amino acid sequence is L or I; and	
10	iii) the amino acid at position 4 of said amino acid sequence is mutated in	
11	comparison to said native sequence to an amino acid other than E, A, G, or P; and	
12 - 13 14	(b) treating said reaction mixture at a temperature sufficient for said mutant DNA polymerase to initiate synthesis of an extension product of said primer to provide a cDNA molecule complementary to said RNA;	
15	(c) treating said reaction mixture at an appropriate temperature for said	
16	mutant DNA polymerase to initiate synthesis of an extension product of said second primer to	
17	provide a double-stranded cDNA molecule; and	
18 19	(d) amplifying said double-stranded cDNA molecule of step (c) by a polymerase chain reaction.	
1	30. (Previously presented) The method of Claim 29, wherein said amino acid	
2	sequence is SEQ ID NO:2, the amino acid at position 3 of said amino acid sequence is Q or G,	
3	and the amino acid at position 6 of said amino acid sequence is S or A.	
1	31. (Original) The method of Claim 29, wherein said amino acid sequence is	
2	SEQ ID NO:3.	
1	32. (Previously presented) The method of Claim 29, wherein said amino acid	
2	sequence is SEQ ID NO:4, and the amino acid at position 3 is Q or G.	
1	33-35. (Cancelled)	

1	36. (Original) The method of Claim 29, wherein said mutant DNA		
2	polymerase is thermostable.		
1	37. (Original) The method of Claim 29, wherein said DNA polymerase is a		
2	mutant form of a Thermus species DNA polymerase.		
1	38. (Original) The method of Claim 29, wherein said DNA polymerase is a		
2	mutant form of Thermus thermophilus DNA polymerase or Thermus aquaticus DNA		
3	polymerase.		
1	39. (Original) The method of Claim 29, wherein said temperature of said		
2	reaction mixture in step(b) is between 40°C and 80°C.		
1	40. (Original) The method of Claim 29, wherein said amino acid at position 4		
2	of said amino acid sequence is mutated in comparison to said native sequence to an amino acid		
3	other than E, A, G, P, Q, or D.		
1	41. (Previously presented) A method for amplifying an RNA using a single-		
2	enzyme reverse transcription/amplification reaction, that comprises:		
3	(a) providing an amplification reaction mixture comprising said RNA, a pair		
4	of primers, Mg ⁺² , and a mutant thermostable DNA polymerase, wherein said mutant DNA		
5	polymerase is characterized in that		
6	i) in its native form said DNA polymerase comprises an amino acid		
7	sequence that is SEQ ID NO: 1;		
8	ii) the amino acid at position 2 of said amino acid sequence is S or A and		
9	the amino acid at position 5 of said amino acid sequence is L or I; and		
10	iii) the amino acid at position 4 of said amino acid sequence is mutated in		
11	comparison to said native sequence to an amino acid other than E, A, G, or P; and		

Appl. No. 09/823,649 Amdt. dated April 22, 2004 Reply to Office Action of October 22, 2003

50.

1

2

3

polymerase.

12 treating said reaction mixture at a temperature sufficient for said mutant (b) DNA polymerase to initiate synthesis of an extension product of said primer to provide a cDNA 13 molecule complementary to said RNA; 14 treating said reaction mixture at an appropriate temperature for said 15 (c) mutant DNA polymerase to initiate synthesis of an extension product of said second primer to 16 provide a double-stranded cDNA molecule; and 17 amplifying said double-stranded cDNA molecule of step (c) by a (d) 18 19 polymerase chain reaction. (Previously presented) The method of Claim 41, wherein said amino acid 1 42. sequence is SEO ID NO:2, the amino acid at position 3 of said amino acid sequence is Q or G, 2 3 and the amino acid at position 6 of said amino acid sequence is S or A. (Original) The method of Claim 41, wherein said amino acid sequence is 1 43. 2 SEQ ID NO:3. 1 44. (Previously presented) The method of Claim 41, wherein said amino acid 2 sequence is SEQ ID NO:4, and the amino acid at position 3 is Q or G. 45-47. (Cancelled) 1 48. (Original) The method of Claim 41, wherein said mutant DNA 1 2 polymerase is thermostable. (Original) The method of Claim 41, wherein said DNA polymerase is a 49. 1 2 mutant form of a Thermus species DNA polymerase.

Page 9 of 24

mutant form of Thermus thermophilus DNA polymerase or Thermus aquaticus DNA

(Original) The method of Claim 41, wherein said DNA polymerase is a

Appl. No. 09/823,649 Amdt. dated [insert date] Reply to Office Action of October 22, 2003

51.

1

2 reaction mixture in step (b) is between 40°C and 80°C. 52. (Original) The method of Claim 41, wherein said amino acid at position 4 1 2 of said amino acid sequence is mutated in comparison to said native sequence to an amino acid other than E, A, G, P, Q or D. 3 (Previously presented) A method for reverse transcribing an RNA, that 1 53. 2 comprises: providing a reverse transcription reaction mixture comprising said RNA, a 3 (a) primer, a divalent cation, and a thermoactive DNA polymerase, wherein said DNA polymerase is 4 characterized in that 5 i) in is native form said DNA polymerase comprises an amino acid 6 7 sequence that is SEQ ID NO:1; ii) the amino acid at position 2 of said amino acid sequence is S or A and 8 the amino acid at position 5 of said amino acid sequence is L or I; and 9 10 iii) the amino acid at position 4 of said amino acid sequence is other than E, A, G, or P; and 11 treating said reaction mixture at a temperature sufficient for said DNA (b) 12 polymerase to initiate synthesis of an extension product of said primer to provide a cDNA 13 14 molecule complementary to said RNA. (Previously presented) The method of Claim 53, wherein said amino acid 54. 1 sequence is SEQ ID NO:5 and the amino acid at position 7 of said amino acid sequence is V or I. 2 (Previously presented) The method of Claim 53, wherein said amino acid 55. 1 2 sequence is SEQ ID NO:6.

(Original) The method of Claim 41, wherein said temperature of said

Appl. No. 09/823,649 Amdt. dated [insert date] Reply to Office Action of October 22, 2003

l	56.	(Previously presented) The method of Claim 53, wherein said amino acid
2	sequence is SEQ ID	NO:7 and the amino acid at position 8 of said amino acid sequence is S or T.
1	57.	(Previously presented) A method for reverse transcribing an RNA, that
2	comprises:	
3	(a)	providing a reverse transcription reaction mixture comprising said RNA, a
4	primer, Mg ⁺² , and a thermoactive DNA polymerase, wherein said DNA polymerase is	
5	characterized in that	
6		i) in its native form said DNA polymerase comprises an amino acid
7	sequence that is SEQ ID NO:1;	
8		ii) the amino acid at position 2 of said amino acid sequence is S or A and
9	the amino acid at pos	sition 5 of said amino acid sequence is L or I; and
10		iii) the amino acid at position 4 of said amino acid sequence is other than
11	E, A, G, or P; and	
12	(b)	treating said reaction mixture at a temperature sufficient for said DNA
13	polymerase to initiate synthesis of an extension product of said primer to provide a cDNA	
14	molecule complementary to said RNA.	
1	58.	(Previously presented) The method of Claim 57, wherein said amino acid
2	sequence is SEQ ID NO:5 and the amino acid at position 7 of said amino acid sequence is V or	
1	59.	(Previously presented) The method of Claim 57, wherein said amino acid
2	sequence is SEQ ID	NO:6.
1	60.	(Previously presented) The method of Claim 57, wherein said amino acid
2	sequence is SEQ ID	NO:7 and the amino acid at position 8 of said amino acid sequence is S or T

1	61.	(Previously presented) A method for amplifying an RNA using a single-
2	enzyme reverse trans	scription/amplification reaction, that comprises:
3	(a)	providing an amplification reaction mixture comprising said RNA, a pair
4	of primers, a divalen	t cation, and a thermostable DNA polymerase, wherein said DNA
5	polymerase is charac	terized in that
6		i) in its native form said DNA polymerase comprises an amino acid
7	sequence that is SEQ ID NO:1;	
8	•	ii) the amino acid at position 2 of said amino acid sequence is S or A and
9	the amino acid at position 5 of said amino acid sequence is L or I; and	
10		iii) the amino acid at position 4 of said amino acid sequence is other than
11	E, A, G, or P; and	
12	(b)	treating said reaction mixture at a temperature sufficient for said DNA
13	polymerase to initiat	e synthesis of an extension product of said primer to provide a cDNA
14	molecule complementary to said RNA;	
15	(c)	treating said reaction mixture at an appropriate temperature for said DNA
16	polymerase to initiate synthesis of an extension product of said second primer to provide a	
17	double-stranded cDNA molecule; and	
18	(d)	amplifying said double-stranded cDNA molecule of step (c) by a
19	polymerase chain reaction.	
1	62.	(Previously presented) The method of Claim 61, wherein said amino acid
2	sequence is SEQ ID	NO:5 and the amino acid at position 7 of said amino acid sequence is V or I

1	63.	(Previously presented) The method of Claim 61, wherein said amino acid
2	sequence is SEQ ID	NO:6.
1	64.	(Previously presented) The method of Claim 61, wherein said amino acid
2	sequence is SEQ ID	NO:7 and the amino acid at position 8 of said amino acid sequence is S or T.
1	65.	(Previously presented) A method for amplifying an RNA using a single-
2	enzyme reverse transcription/amplification reaction, that comprises:	
3	(a)	providing an amplification reaction mixture comprising said RNA, a pair
4	of primers, Mg+2, and a thermostable DNA polymerase, wherein said DNA polymerase is	
5	characterized in that	
6		i) in its native form said DNA polymerase comprises an amino acid
7	sequence that is SEQ ID NO:1;	
8		ii) the amino acid at position 2 of said amino acid sequence is S or A and
9	the amino acid at po	sition 5 of said amino acid sequence is L or I; and
10		iii) the amino acid at position 4 of said amino acid sequence is other than
11	E, A, G, or P; and	
12	(b)	treating said reaction mixture at a temperature sufficient for said DNA
13	polymerase to initiate synthesis of an extension product of said primer to provide a cDNA	
14	molecule complementary to said RNA;	
15	(c)	treating said reaction mixture at an appropriate temperature for said DNA
16	polymerase to initiat	e synthesis of an extension product of said second primer to provide a
17	double-stranded cDl	NA molecule; and
18	(d)	amplifying said double-stranded cDNA molecule of step (c) by a
19	polymerase chain re	action.

Appl. No. 09/823,649 Amdt. dated April 22, 2004 Reply to Office Action of October 22, 2003

- 1 66. (Previously presented) The method of Claim 65, wherein said amino acid sequence is SEQ ID NO:5 and the amino acid at position 7 of said amino acid sequence is V or I.
- 1 67. (Previously presented) The method of Claim 65, wherein said amino acid 2 sequence is SEQ ID NO:6.
- 1 68. (Previously presented) The method of Claim 65, wherein said amino acid sequence is SEQ ID NO:7 and the amino acid at position 8 of said amino acid sequence is S or T.